

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A system for modeling a bi-directional signal of an electric circuit, comprising:

means for maintaining a first value representing an input component of the bi-directional signal;

means for maintaining a second value representing an output component of the bi-directional signal; and

means for generating a **third-resolved** value based upon at least the first value and second value.

2. (Currently Amended) The system of Claim 1 wherein the means for generating a **said third-resolved** value is further based upon resistive data **modeling at least a portion of resistance coupled with said electric circuit.**

3. (Currently Amended) The system of Claim 1 wherein the first value, second value and **third-resolved** value are output to a computer file.

4-7. (Canceled)

8. (Currently Amended) A method for modeling a bi-directional signal of an electric circuit, comprising:

maintaining a first value representing an input component of the bi-directional signal;

maintaining a second value representing an output component of the bi-directional signal;

and

generating a **third-resolved** value based upon at least the first value and second value.

9. (Currently Amended) The method of Claim 8 wherein the ~~third~~ resolved value is further based upon resistive data which models at least a portion of resistance coupled to a pad cell.

10. (Previously Presented) The method of Claim 8 further comprising:  
specifying at least one bi-directional signal of a logic design to be simulated; and  
simulating the logic design.

11-12. (Canceled)

13. (Previously Presented) A method for generating a simulation output file,  
comprising:  
placing first data in the simulation file which represents when an input signal applied to a bi-directional pad is de-asserted; and  
placing second data in the simulation file which represents when an output signal applied to the bi-directional pad is asserted.

14. (Previously Presented) The method of Claim 13 further comprising:  
placing third data in the simulation file which represents when a resolved signal is asserted, the resolved signal being a combination of the input signal applied to the bi-directional pad, the output signal applied to the bi-directional pad, and a resistance value associated with the bi-directional pad.

15. (Currently Amended) A simulation model for a bi-directional pad, said simulation model being responsive to an applied stimulus and generating responses thereto, and having at least two modes of operation, where a first mode of operation provides at least two response values for the bi-directional pad comprising a first value representing an input component and a second value representing an output component, and a second mode of operation provides at least three response values for the bi-directional pad comprising a resolved value based upon at least the first value and second value.

16. (Currently Amended) A method for operating an improved pad cell model, comprising:  
maintaining a first value representing an input component of the bi-directional signal;  
maintaining a second value representing an output component of the bi-directional signal;  
and  
generating a ~~third~~ resolved value based upon at least the first value and second value.

17. (Previously Presented) The method of claim 16, wherein the improved pad cell model comprises:  
an input node having a value which reflects data that is supplied to the pad cell from external sources;  
an output node having a value which reflects data that is supplied as output from the pad cell; and  
a resolved node, coupled to the input node and output node, having a value which reflects a combination of the input node value and the output node value.